

	Bioaccumulation and tainting	Damage to living resources	Hazard to human health		Reduction of amenities		
			Oral intake	Skin contact and inhalation			
Name	A	B	C	D	E	Status ₂	Remarks
Alcohol(C6-C17)(secondary) poly (3-6)ethoxylate	0	4	1	0	0	NC	
Alcohol(C6-C17)(secondary) poly(7-12)ethoxylate	0	3	1	0	0	NC	
Alcohol(C12-C16) poly(1-6)ethoxylates	0	4	1	I	X	(R)	
Alcohol(C8-C11) poly(2.5-9)ethoxylates	0	3	1	I	X	R	
Alcohol(C12-C16) poly (20 and above)ethoxylates	0	2	1	I	X	(R)	
Alcohol(C12-C16)poly (7-19)ethoxylates	0	3	1	I	X	(R)	
Alkyl(C11-C13)benzenesulphonates, branched chain	0	3	1	I	0	R	
Alkylbenzenesulphonates, branched chain	0	(4)	1	I	0	A	

²

A	=	Addition	R	=	Revised
C	=	Confirmed	(R)	=	Revised in name only
NC	=	Not changed			

Alkyl(C11-C13)benzenesulphonates, straight chain 0 3 1 0 0 R

Alkylbenzenesulphonates, straight chain 0 (4) 1 0 0 A

Name	A	B	C	D	E	Status ²	Remarks
Alkyl(C4-C20) ester copolymer (LOA)	0	0	0	II	XX	(R)	
Alkyl(C8-C40)phenol sulphide (LOA)	0	0	0	0	XX	R	
Alkyl(C8-C9)phenylamine, in aromatic solvent (LOA)	T	3	2	II	XX	(R)	
Alkyl[(C8-C10)/(C12-C14)]:(50%/50%)polyglucoside mixture solution (max 55% active material)	0	2	1	I	0	A	
Alkyl[(C8-C10)/(C12-C14)]:(≤40%/≥60%)polyglucoside mixture solution (max 55% active material)	0	3	1	I	0	A	
Alkyl[(C8-C10)/(C12-C14)]:(≥60%/≤40%)polyglucoside mixture solution (max 55% active material)	0	2	1	I	0	A	
Alkyl(C12-C14)polyglucoside solution (max 55% active material)	0	3	1	I	0	A	
Alkyl(C8-C10)polyglucoside solution (max 65% active material)	0	2	1	I	0	A	
Alkylsulphonic acid ester of phenol (MESAMOLL)	0	0	0	0	0	R	
Barium peroxide	0	2	(3)	II	XX	C	
Bromoacetone	0	(4)	(3)	II	XXX	NC	Potent lachrymator
Butyl n-amyl ketone	T	3	-	-	-	NC	
Butyl heptyl ketone	0	(3)	-	-	-	R	
1-(4-Chlorophenyl)-4,4-dimethylpentan-3-one	0	3	1	0	XX	R	
Copper salt of long chain(>C17) alkanoic acid (LOA)	0	1	1	I	XX	(R)	

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Copper sulphate (solution)	+	4	3	I	XX	A	
1,3-Cyclopentadiene dimer (molten)	T	3	2	II	XXX	R	Lachrymator
Name	A	B	C	D	E	Status ²	Remarks
Cyclopentanone	0	0	(1)	II	XX	NC	
Dialkyldiphenylamines (LOA)	0	1	0	I	XX	R	
Di-n-butyl ketone	T	3	1	I	X	NC	
Diisopropyl ketone	-	2	1	-	-	R	
N,N-Dimethyldodecylamine	+	4	(2)	II	XXX	A	
3,5-Dimethylpyridine	0	(2)	-	-	-	A	
Dodecyl hydroxypropyl sulphide (LOA)	+	4	0	0	X	R	
Ethyl amyl ketone	T	2	-	-	-	NC	
Ethyl tert-butyl ether	0	2	0	I	X	NC	
Ethyl butyl ketone	T	2	1	I	X	NC	
Hexafluoroacetone hydrate	0	-	2	II	XX	NC	
HiTEC 4728 (LOA)	T	0	0	I	XX	C	
HiTEC 4738 (LOA)	T	0	0	I	XX	C	
Low boiling alkylpyridines	-	-	-	-	-	A	
4-Methoxy-4-methylpentan-2-one	0	0	1	I	X	R	
Methyl butyl ketone	0	1	1	II	XXX	C	Neurotoxic; Testicular toxicity
Methylcyclohexanones	0	(1)	1	-	-	R	
Methyl isopropenyl ketone	0	-	2	II	XX	NC	

²

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Methyl n-nonyl ketone T 3 1 - - R

Methyl n-octyl ketone T 3 0 - - R

Name	A	B	C	D	E	Status ²	Remarks
Methyl vinyl ketone	0	-	3	II	XXX	NC	
Nonyl(C6-C12)phenol poly (4-12)ethoxylate	0	3	1	I	X	C	
Phosgene	0	-	-	II	XX	R	Delayed lung injury
Phosphate esters, alkyl(C12-C14)amine (LOA)	0	3	0	0	XX	R	
Polyisobutenyl anhydride adduct	0	0	0	I	X	A	
Polyolefinamide alken(C16+)amine (LOA)	0	0	1	I	XX	(R)	
Potassium formate solution (75% or more)	0	0	0	I	X	R	
Pyridine bases	0	(3)	-	-	-	A	
Sodium formate	-	-	0	I	X	A	
Sulfurized fat(C14-C20) (LOA)	0	1	0	0	XX	R	
Sulfurized polyolefinamide alkene(C28-C250)amine (LOA)	0	0	0	0	XX	R	
Triphenylphosphate	+	4	1	I	XX	R	ChE inhibitor
Triphenyl phosphate/ <i>tert</i> -butylated triphenyl phosphate mixtures containing 15-48% of triphenyl phosphate	+	4	1	I	XX	R	ChE inhibitor
Viscoplex 5011B	0	0	0	I	XX	R	

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ANNEX 6

**LIST OF SUBSTANCES CONSIDERED AT THE THIRTY-SECOND SESSION
OF THE GESAMP WORKING GROUP ON THE EVALUATION OF THE
HAZARDS OF HARMFUL SUBSTANCES CARRIED BY SHIPS¹**

¹

An abbreviated legend to the hazard profiles is set out in Appendix hereto.

APPENDIX

ABBREVIATED LEGEND TO THE HAZARD PROFILES

Column A - Bioaccumulation and Tainting

+	Bioaccumulated to significant extent and known to produce a hazard to aquatic life or human health
Z	Bioaccumulated with attendant risk to aquatic organisms or human health, however with short retention of the order of one week or less
T	Liable to produce tainting of seafood
O	No evidence to support one of the above ratings (+ , Z, T)

Column B - Damage to living resources

Ratings	96 hr LC50
5 Extremely toxic	less than 0.01 mg/l
4 Highly toxic	less than 1 mg/l
3 Moderately toxic	1-10 mg/l
2 Slightly toxic	10-100 mg/l
1 Practically non-toxic	100-1000 mg/l
0 Non-hazardous	greater than 1000 mg/l
D Substance likely to blanket the sea-bed	
BOD Substance with oxygen demand	

Column C - Hazard to human health by oral intake

Ratings	LD50	(laboratory mammal)
4 Highly hazardous		less than 5 mg/kg
3 Moderately hazardous		5-50 mg/kg
2 Slightly hazardous		50-500 mg/kg
1 Practically non-hazardous		500-5000 mg/kg
0 Non-hazardous		greater than 5000 mg/kg

Column D - Hazard to human health by skin and eye contact or inhalation

- II Hazardous (severe irritation, strong sensitizer, lung injury, percutaneous toxicity, carcinogenic, or other specific long-term adverse health effect)
- I Slightly hazardous (mild irritation, weak sensitizer)
- 0 Non-hazardous (non-irritant, not a sensitizer)

Column E - Reduction of amenities

- XXX Highly objectionable because of persistency, smell or poisonous or irritant characteristics; as a result contaminated beaches liable to be closed; also used when there is clear evidence that the substance is a human carcinogen or that the substance has the potential to produce other serious specific long-term adverse health effects in humans.
- XX Moderately objectionable because of the above characteristics, but short-term effects leading only to temporary interference with use of beaches; also used when there is credible scientific evidence that the substance is an animal carcinogen but where there is no clear evidence to indicate that the material has caused cancer in humans, or when there is evidence from laboratory studies that the substance could have the potential to produce other serious specific long-term adverse health effects.
- X Slightly objectionable, non-interference with use of beaches
- 0 No problem

Ratings in brackets, (), indicate insufficient data available to the GESAMP experts on specific substances, hence extrapolation was required.

- N Not applicable (e.g. if gases)
- Indicate data were not available to the GESAMP Working Group

Note: The descriptive terms such as highly toxic, non-hazardous, etc., were used by the original panel for the purposes of the 1973 International Conference on Marine Pollution. They have no particular significance in terms of hazard posed outside the particular circumstances addressed by that Conference and IMO, i.e. marine pollution as a consequence of discharges or spillages from ships.
